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ABSTRACT

In the 1973-74 Michigan Educational Assessment Program (MEAP), new objective-referenced tests measuring some of the state-level minimal mathematics and reading performance objectives were introduced. These tests and the reports of results provided classroom teachers with extensive information about the performance objectives. Tests similar to those used in the 1973-74 program were included in the 1974-75 program. This manual was prepared to help local educators interpret the information provided for individual students and for classroom groups. This booklet has four sections. Section one describes the tests used in the 1974-75 educational assessment program. The second section describes and illustrates the various report forms used to provide individual student and classroom data. The third section includes aids in interpreting the information contained in the reports. A list of cautions that should be exercised in the interpretation of these results is in the final section. The mathematics and reading performance objectives contained in the educational assessment program at grades 4 and 7 are given in the appendix. (Author)

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Second Report
Individual Student and Classroom Reports: Explanatory Materials 1974-75

Michigan Department of Education

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INDIVIDUAL STUDENT AND CLASSROOM REPORTS: EXPLANATORY MATERIALS

The Second Report of the 1974-75
Michigan Educational Assessment Program

Prepared by Research, Evaluation, and Assessment Services

Michigan Department of Education

October, 1974

FOREWORD

The Michigan Educational Assessment Program (MEAP) was initiated by the State Board of Education, supported by the Governor, and funded by the Legislature initially through enactment of Act 307 of the Public Acts of 1969, and subsequently under Act 38 of the Public Acts of 1970. This report, the second in the 1974-75 series of MEAP reports, provides information which should assist the school district staff in the interpretation of the individual student and classroom educational assessment reports. In coming months, staff of the Michigan Department of Education will conduct a series of workshops designed to assist local educators in interpreting and utilizing the educational assessment results. It is hoped that the information provided in the educational assessment reports will be useful to educators and citizens in improving the education of all Michigan children and youth.

Thanks are due to a large number of individuals and groups for their cooperation with and assistance to the Department in developing the educational assessment program. Educators and other citizens were involved in the development and reviews of the performance objectives which form the basis of the objective-referenced reading and mathematics tests used in the 1974-75 educational assessment program. The tests themselves were developed by Michigan educators and validated during the 1972-73 school year in several Michigan school districts. The program was designed and administered by the Research, Evaluation, and Assessment Services (REAS), Michigan Department of Education, with the assistance of Measurement Research Center, Iowa City, Iowa, and the advice of the REAS Council.

This report was prepared by Dr. Edward D. Roeber, with the assistance of Dr. David Donovan, Dr. Ronald L. Fishbein, Dr. Thomas H. Fisher, Mr. Robert Huyser, and Mrs. June Olsen. Questions or requests for additional information relative to this report should be directed to the educational assessment staff.

John W. Porter

Superintendent of Public Instruction

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INTRODUCTION

In the 1973-74 Michigan Educational Assessment Program (MEAP) new objective-referenced tests measuring some of the state-level minimal mathematics and reading performance objectives were introduced. These tests and the reports of results provided classroom teachers with extensive information about the performance objectives. Tests similar to those used in the 1973-74 program were included in the 1974-75 program. This manual was prepared to help local educators interpret the information provided for individual students and for classroom groups.

This booklet has four sections. Section one describes the tests used in the 1974-75 educational assessment program. The second section describes and illustrates the various report forms used to provide individual student and classroom data. The third section includes aids in interpreting the information contained in the reports. A list of cautions that should be exercised in the interpretation of these results is in the final section. The mathematics and reading performance objectives contained in the educational assessment program at grades 4 and 7 are given in the APPENDIX.

SECTION I

DESCRIPTION OF THE EDUCATIONAL ASSESSMENT MEASURES

The 1974-75 Michigan Educational Assessment Program (MEAP) utilizes four different measures—mathematics, reading, and Word Relationships tests, and the Pupil Attitude Questionnaire. The mathematics and reading tests are objective-referenced instruments written to measure certain minimal performance objectives. The list of minimal performance objectives measured by each test is given in the APPENDIX. The performance objectives used in the 1974-75 educational assessment program were selected from the entire set developed by subject-matter specialists and lay citizens in cooperation with the Department of Education. The total set represents the minimal expectancies applicable to all fourth and seventh grade students in the state by the end of third and sixth grades respectively. These objectives are not intended to cover the entire range of skills which some students might achieve in these areas by the end of third or sixth grade.

The Word Relationships test provides a norm-referenced measure of developed verbal aptitude. Because it is the same test used previously in the Michigan Educational Assessment Program, it can be used as a link to previous MEAP data at the school and school district levels.

The Pupil Attitude Questionnaire measures attitudes toward school and self.

The mathematics and reading tests contain five test items to measure each performance objective. The test items for the mathematics and reading tests were written by classroom teachers from four Michigan school districts. These items were reviewed and edited by a technical support contractor and tried out in five Michigan school districts. The data gathered in the tryouts and reviews by subject-matter specialists were utilized in preparing final test copy. After the tests were used in the 1973-74 program, mathematics and reading specialists reviewed the objectives and the tests and recommended a number of changes in the tests. The tests used in the 1974-75 educational assessment program were changed from those used in the 1973-1974 program as a result of these recommended changes.

Mathematics

Only some of the minimal mathematics performance objectives were selected for use in the 1974-75 educational assessment program because of testing time limitations. The objectives chosen represent some of the more important objectives for the end of third and sixth grades, but it should be noted that other important minimal performance objectives for these grades are not included in the 1974-75 assessment program.

The fourth grade mathematics test measures thirty minimal performance objectives; the seventh grade mathematics test measures forty performance objectives. Each mathematics test includes problems presented orally by the test administrator. Both tests are untimed, allowing the students to work at their own pace. Student and classroom scores are reported separately for each objective.

Reading

The fourth grade reading test includes measures of nineteen performance objectives, while the seventh grade test includes measures of twenty performance objectives. The reading performance objectives emphasize what most reading specialists would consider to be comprehension. The fourth grade test includes items read by the test administrator. As with the mathematics tests, the reading tests are untimed and student performance is reported separately on each objective.

Word Relationships (Optional)

The optional fourth and seventh grade Word Relationships tests are identical to the tests taken by all students in the 1972-73 and 1973-74 educational assessment programs. These measures were constructed according to specifications developed jointly by Educational Testing Service and the Michigan Department of Education.

The fourth grade Word Relationships test contains forty-five verbal analogy problems designed to measure students' knowledge of the meaning of words and the relationships between words and concepts. Twenty minutes is allowed to work on the test. The seventh grade test contains thirty-eight questions of the same type. The time allowed to work on this test is fifteen minutes.

Pupil Attitude Questionnaire (Optional)

The Michigan Department of Education with the Assistance of Educational Testing Service has developed measures of two attitudes: (1) attitude toward school and (2) attitude toward self. The development of these attitude measures was begun in 1971. This Questionnaire is identical to the one offered on an optional basis in the 1973-74 educational assessment program.

The Pupil Attitude Questionnaire consists of 30 questions; fifteen questions measuring each attitude. The tests are untimed and the questions are read to the students by the assessment administrator. Reports provided include results for each test item and a distribution of pupil scores on each attitude.

SECTION II

DESCRIPTION OF THE EDUCATIONAL ASSESSMENT REPORTS

A. Mathematics, Reading and Word Relationships Results

Local educators will receive one report that describes individual student performance and two reports that summarize student performance at the classroom level. These reports are: (1) the Individual Student Report, (2) the Classroom Listing, and (3) the Classroom Summary. Basically, the forms used to report results are unchanged from the 1973-74 Program. The only major change is the organization of the seventh grade classroom results to provide separate reports for the mathematics teacher and the reading or English teacher. This should increase the usefulness of the seventh grade results in junior high school classrooms.

Each of these reports is illustrated and described in this section as described above, the format of the grade 4 and grade 7 reports are identical; therefore, only the fourth grade reports are shown. The major sections of each report are labeled with letters in order to clarify the references to them in the text.

Individual Student Report

The Individual Student Report, shown in FIGURE 1 as a reduced facsimile of the actual report, presents a student's performance on each test item for all of the mathematics and reading performance objectives. The student's status on each performance objective is given as well as his performance on the Word Relationships test if this optional test was elected by the district. One report sheet is provided for each student who participated in the program.

As can be seen in FIGURE 1, Section A at the top of the report contains identification information, including the pupil name, teacher name, school building, and school district. Immediately below this is the mathematics section of the report. The method of reporting is the same for mathematics and reading.

INDIVIDUAL STUDENT REPORT

STUDENT: SMITH THOMAS — SCHOOL: CENTRAL ELEM

TEACHER: O'NEILL — DISTRICT: NORTHEAST SCH DIST

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM
1974-75 (YEAR 6)

GRADE **4**

MATHEMATICS

OBJECTIVE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
OBJECTIVE ATTAINED?	Y	Y	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y	Y	N	N	Y	Y	N	Y	Y	N	Y	Y	N	Y	N	Y	Y	Y
ITEM NUMBERS AND RESPONSES BY OBJECTIVE	56	51	91	116	111	101	96	131	26	76	81	86	71	31	146	66	36	41	61	121	11	136	1	126	16	21	106	141	151	46
	+	+	+	G	D	+	+	+	H	+	+	+	+		G	+	+	+	+	+	+	H	+	+	+	+	+	+	+	
	57	52	92	117	112	102	97	132	27	77	82	87	72		147	67	37	42	62	122	12	137	2	127	17	22	107	142	152	47
	+	+	+	+	G	+	+	+	✱	+	+	+	+	+	B	B	+	+	+	F	+	C	+	B	+	+	B	+	+	C
	58	53	93	118	113	103	98	133	28	78	83	88	73	33	148	68	38	43	63	123	13	138	3	128	18	23	108	143	153	48
	+	+	+	+	+	+	F	+	F	+	C	+	+	B	F	G	+	+	C	+	+	✱	+	+	+	B	+	+	+	+
	59	54	94	119	114	104	99	134	29	79	84	89	74	34	149	69	39	44	64	124	14	139	4	129	19	24	109	144	154	49
	A	+	+	+	J	+	+	+	C	+	+	+	+	+	+	+	+	+	H	+	+	C	+	B	+	+	B	+	+	+
	60	55	95	120	115	105	100	135	30	80	85	90	75	35	150	70	40	45	65	125	15	140	5	130	20	25	110	145	155	50
	+	+	+	+	+	+	H	+	✱	+	+	+	B	+	+	+	+	C	A	+	+	H	D	+	+	+	F	+	B	+
NUMBER CORRECT	4	5	5	4	2	5	3	5	0	5	4	5	4	4	2	3	5	4	2	4	5	0	4	3	5	4	2	5	4	4

READING

OBJECTIVE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
OBJECTIVE ATTAINED?	Y	Y	N	N	Y	Y	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y
ITEM NUMBERS AND RESPONSES BY OBJECTIVE	162	223	206	167	6	156	175	164	181	161	183	182	187	241	163	162	195	200	165
	+	+	+	F	+	+	+	+	J	H	+	+	G	+	H	+	+	+	F
	163	224	208	168	7	157	176	172	183	180	184	188	188	242	164	166	196	201	166
	+	+	A	C	+	+	+	C	+	✱	+	+	+	+	+	+	+	F	+
	213	225	207	169	8	158	177	173	214	191	220	212	218	243	165	211	197	202	194
	+	G	+	G	+	+	G	G	+	G	+	+	+	+	+	+	+	+	+
	221	226	208	170	9	159	178	216	237	210	230	217	219	244	208	222	198	203	218
	+	+	C	✱	C	+	+	+	+	+	+	+	+	B	+	+	+	J	+
	228	227	208	171	10	160	179	238	225	236	230	228	233	245	221	235	199	204	234
	+	+	+	✱	+	+	F	B	+	C	+	B	+	F	J	F	+	+	+
NUMBER CORRECT	5	4	3	0	4	5	3	2	4	1	5	4	4	3	3	4	5	3	4

DATE OF TESTING 10/74 — CHRONOLOGICAL AGE 9 - 11

WORD RELATIONSHIPS

RAW SCORE: 23 — STANDARD SCORE: 46

PERCENT BELOW: 40

COMMENTS:

FIGURE 1: INDIVIDUAL STUDENT REPORT

The numbers assigned to each mathematics and reading objective appear in Section B. A brief description of each of the objectives appears in Section C immediately below the objective number on the slanted lines. These descriptions are designed to remind the educator of the complete wording of the objectives found in the APPENDIX or in the booklets of minimal performance objectives which have been sent to each school district.

Section D shows the "OBJECTIVE ATTAINED?" line. This indicates whether or not the student attained each objective. If the student has attained the objective, there is a capital letter Y (for YES) in the box. If the student has not attained the objective, there is a capital N (for NO) in the box. The student must answer correctly at least four of the five test items measuring each objective in order to be scored as attaining the objective. If the "OBJECTIVE ATTAINED?" line is left blank, this indicates the student did not attempt enough of the questions for his status on the performance objective to be determined.

Section E indicates the test item numbers that measure each objective and whether the student's responses were correct or incorrect for each item. A correct response is indicated with a plus (+) sign. An incorrect response is shown by a letter indicating the student's incorrect choice. An asterisk (*) is used to indicate that the student did not respond to an item.

Section F shows the total number of items the student correctly answered for each objective.

The Reading portion of the report (Section I) contains information similar to the Mathematics portion. Both sections indicate how each test item for each objective was answered and whether the student has attained each objective. Inasmuch as the mathematics and reading tests are not designed to rank students on overall achievement, total scores and percentile ranks are not given.

Section G, lower right-hand corner of the report, will include the Word Relationships scores if the school district elected to administer this test. The labels and the results will be computer printed. Because the Word Relationships test is norm-referenced and designed to rank students on developed verbal ability, total scores (not individual item responses) are provided. The student's raw score and standard score, as well as percent below, are given. The percent below score indicates the percentage

of fourth or seventh graders tested in October, 1973, scoring below the individual student's standard score. The October, 1973, statewide score distribution was used in the 1974-75 program as the basis for reporting percentile ranks.

The "COMMENTS" section of the Individual Student Report, Section H, is for the convenience of educators who receive and use the report. It can be used to make notations regarding the student's performance and to note highlights of the test report. Because of space limitations, this space is not provided on the seventh grade report forms.

The grade seven version of the report is similar, except that the first copy is perforated, so that one part can be sent to the mathematics teacher and the other to the English teacher. The second copy is not perforated and may be placed in a central file or in the student's record. The identification information is printed both on the top and bottom half of the form, so that the records can be identified easily.

Classroom Listing Report

The Classroom Listing Report is used to summarize the information contained on the Individual Student Report for an entire classroom. It allows the local educator to examine quickly the status of all students in the classroom on each mathematics and reading objective. An example of the Classroom Listing Report for grade 4 mathematics is shown in FIGURE 2. Similar reports will be provided for the reading objectives. Essentially, the "OBJECTIVE ATTAINED?" line from all of the Individual Student Reports for a classroom are repeated in this report.

Section A of the report provides the identification: teacher, name, school building, and school district. Section B contains the objective number which is the same number as used on the Individual Student Report. The objective descriptions shown in Section C of this report are identical to those used on the Individual Student Report.

A→ TEACHER: MS O'NEILL DISTRICT: NORTHEAST SCH DIST

SCHOOL: CENTRAL ELEM GRADE: FOUR DATE TESTED: 10/74

CLASSROOM LISTING REPORT

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM 1974-75 (YEAR 6)

GRADE **4**

MATHEMATICS

B→ OBJECTIVE NO.

C→ OBJECTIVE DESCRIPTION

OBJECTIVE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
STUDENT NAME	Identify shapes that are open or closed	Identify similar geometric shapes	Identify congruent geometric shapes	Identify longer and shorter	Measure line segments	Choose appropriate unit of measure	Choose the basic unit of length	Indicate appropriately numbered point for point on a line	Choose appropriately numbered point on a line	Choose number between two numbers	Choose number between two numbers on a number line	Identify a numeral less than 100	Indicate number which is greater or less than another number	Indicate which of 2 numbers is greater or less	Identify the number that is one more or one less than a given number	Create a list of numbers in order using a rule	Identify the number of tens and ones in a two-digit number	Indicate word number in a sequence	Identify a number in a sequence of 3 numbers	Select set with twice as many members as another	Add two-digit and three-digit numbers with regrouping	Add numbers vertically and horizontally	Subtract two-digit numbers with regrouping	Subtract three-digit numbers with regrouping	Subtract two-digit from two-digit number (no borrowing)	Solve problems involving addition and subtraction	Identify equivalent amounts of money	Identify temperatures	Identify geometric shapes
ALTENA DEBBIE J	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	N
AVERILL JAN C	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	N	N	Y	Y	N	N	Y	N	Y	N	N	Y	Y	N	Y	N
BEECHUM STEVE A	N	N	Y	Y	N	Y	N	Y	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	N	Y	N	N
BELL JAMES A	Y	Y	Y	N	N	Y	Y	N	N	N	N	Y	Y	N	N	N	Y	N	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N
CARLOS ANA M	N	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	N	Y	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y
DIXON SUSAN M	Y	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	Y	Y	N	Y	N	N	N	Y	Y	N	N
ELDRIDGE RICHAR L	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N	Y	N	N	Y	Y	N	Y	N
FREDRICKS ANISA L	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	Y	Y	Y	N	Y	N
HAUENSTEI EDITH A	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	Y	N
HAYES LEROY M	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	N
JOHNSON NORA J	N	Y	Y	N	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	Y
LORENZ PABLO R	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	N	Y	N	Y	Y	Y	Y	N	Y
MEERS AMANDA S	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y
MILLER GLORIA S	Y	N	N	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	N	N	Y	N	Y	N	Y	N	Y
PETERSON CONNIE S	Y	Y	Y	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	N	Y	N	Y	Y	Y	Y	N
RUMMELHAR EARL P	N	N	Y	Y	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	Y	N	Y	N	Y	Y	N	Y	N	Y	N	Y	N	Y
SMITH THOMAS L	Y	Y	N	Y	Y	N	N	Y	N	Y	N	Y	Y	Y	Y	N	Y	Y	N	Y	Y	N	Y	Y	N	Y	Y	Y	N	Y	N
STRUB MICHEL R	Y	Y	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	N	Y
VANDERBUR PETER M	Y	Y	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	N	Y	N	Y	N	Y	Y	N	N	N	Y	N	Y	N	N	Y
ZOLNOSKY CAROL J	N	Y	Y	N	Y	Y	N	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	Y	N	Y	N
E→ PERCENT OF PUPILS ATTAINING OBJECTIVE	60	60	70	70	50	65	60	65	65	80	65	70	80	55	70	75	65	60	65	75	55	45	65	70	55	60	60	45	65	50

FIGURE 2: CLASSROOM LISTING REPORT

Section D contains the information on each student in the classroom by objective. Each student's name is printed in the left-hand column and his status on each objective is printed on the line across from his name. Again, attained objectives are indicated with a capital letter Y (for YES), and objectives not attained are indicated with a capital N (for NO).

Section E, typed at the bottom of the list of students, shows the percent of students in the classroom who have attained each of the objectives. This will allow local educators to assess quickly the status of the entire classroom on each objective. By summarizing each student's status on each objective on one sheet, an educator can determine readily which students need additional help to attain certain performance objectives.

There are also two seventh grade Classroom Listing Reports—one for Mathematics results and one for Reading results. The Mathematics results are reported for each mathematics teacher coded on the seventh grade answer sheet. The Reading results are organized by the English teachers coded on the answer sheets.

Classroom, School Or District Summary Form

The Classroom, School or District Summary Form is used to report summaries of the assessment data at three levels: for each classroom, for each school, and for each school district. For purposes of this discussion, only the classroom version of this report form is illustrated and explained.

An example of the first page of this two-page report is shown in FIGURE 3. The second page is a continuation of the information provided on the first page. As with the other reports, each major section of this facsimile is marked with a letter for purposes of explanation.

Section A of the report contains the necessary identification information: the type of report (whether a classroom, school, or district summary), the district name and five-digit district code, the school name and the four-digit school code, and the grade tested.

Section B shows the percent of students who correctly responded to 0, 1, 2, 3, 4, or 5 items for each of the objectives. These frequency distributions show how close students who did not attain an objective came to attaining it.

CLASSROOM SUMMARY FOR
MS. O'NEILL

DISTRICT CODE NORTHEAST SCH DIST 55-345

A → SCHOOL CODE CENTRAL ELEM 7120

GRADE FOUR

DATE TESTED 10/74

CLASSROOM, SCHOOL OR DISTRICT SUMMARY

WORD RELATIONSHIPS (OPTIONAL)

STAND SCORE INTERVAL	FREQUENCY	PERCENT IN INTERVAL
70-74	0	0
65-69	3	9
60-64	1	3
55-59	6	19
50-54	6	19
45-49	7	22
40-44	2	6
35-39	4	13
30-34	0	0
25-29	1	3
20-24	0	0
15-19	0	0
	32	NUMBER OF PUPILS

THIS SPACE IS USED TO REPORT HUMAN AND FINANCIAL RESOURCE INFORMATION ON THE SCHOOL AND DISTRICT SUMMARIES. BECAUSE THIS INFORMATION IS NOT COLLECTED AT THE INDIVIDUAL CLASSROOM LEVEL, THERE [illegible] RESOURCE INFORMATION AVAILABLE FOR THE CLASSROOM SUMMARY.

← I

H

PERCENT OF STUDENTS ANSWERING							NUMBER OF PUPILS	ITEM NO.	OBJECTIVE	OBJECTIVE CODE
1	6	6	9	28	50	78	32	1	INDICATE OBJECTS THAT ARE SAME SIZE	AR-I-A-6
0	0	0	3	6	91	97	32	2	INDICATE SIMILAR GEOMETRIC SHAPES	AR-I-A-8
B → 0	0	3	3	16	78	94	32	3	INDICATE OBJECTS ARRANGED FULL TO EMPTY	AR-I-A-16
3	0	3	0	16	69	85	32	4	INDICATE LONGEST AND SHORTEST OBJECTS	AR-I-A-24
0	3	0	9	25	63	88	32	5	INDICATE FIRST AND LAST	AR-I-A-39
C → 0	3	0	0	13	78	91	32	6	CHOOSE EQUIVALENT SETS	AR-I-B-7
3	0	0	0	6	91	97	32	7	CHOOSE SETS HAVING FEWER NUMBERS	AR-I-B-32
0	3	0	5	22	72	94	32	8	INDICATE APPROPRIATE NUMERAL FOR POINT ON A LINE	AR-I-B-40 ← G
D → 0	3	0	3	25	69	94	32	9	CHOOSE GREATEST AND LEAST NUMBER	AR-I-B-43
3	0	0	3	25	69	94	32	10	CHOOSE NUMBER BETWEEN TWO NUMBERS	AR-I-B-44
6	0	0	3	3	88	91	32	11	CHOOSE NUMBER BEFORE OR AFTER A NUMBER	AR-I-B-45
E → 0	2	3	13	19	63	82	32	12	IDENTIFY A NUMERAL LESS THAN 100	AR-I-B-64
0	6	6	6	13	69	82	32	13	INDICATE NUMBER BEFORE OR AFTER NUMBER WITHIN A DECADE	AR-I-B-65
13	0	0	0	0	78	78	32	14	INDICATE WHICH OF 3 NUMBERS IS GREATER OR LESS	AR-I-B-67
0	6	3	9	19	63	82	32	15	INDICATE THE VALUES OF A SET OF DIMES AND PENNIES	AR-I-B-70
F → 6	9	16	3	9	59	68	32	16	CHOOSE LIST OF NUMBERS IN ASCENDING ORDER	AR-I-B-81
7	3	0	0	6	84	90	32	17	INDICATE GREATER OR LESS/SCRAMBLED POSITIONS	AR-I-B-82
3	0	3	3	22	59	90	32	18	INDICATE NEXT NUMBER IN A SEQUENCE	AR-I-B-84
0	3	13	6	9	69	78	32	19	INDICATE A NUMBER THAT IS A MULTIPLE OF 2	AR-I-B-85
18	13	9	16	13	31	44	32	20	SELECT SET WITH THICE AS MANY MEMBERS AS ANOTHER	AR-I-B-86
7	6	6	3	9	69	78	32	21	ADD TWO-DIGIT AND ONE-DIGIT NUMBER/NO CARRYING	AR-II-A-10

PERCENT OF STUDENTS ANSWERING							NUMBER OF PUPILS	ITEM NO.	OBJECTIVE	OBJECTIVE CODE

FIGURE 3: CLASSROOM SUMMARY

Section C of the report shows the percentage of pupils who attained each objective. This figure is identical to the percentage given in Part E of the Classroom Listing Report. Section D shows the total number of students in the class who were tested. Sections E and F contain the same objective numbers and descriptions as given on the Individual Student Report and the Classroom Listing Report.

The objective codes given in Section G refer to the coding system used in the complete set of mathematics and reading objectives. Both the objectives and the coding system have been distributed to each Michigan school district, and are shown also in the APPENDIX.

Section H summarizes the Word Relationships test. This summary contains a standard score distribution which shows the number and percent of students' scores falling in each standard score interval. The total number of students who took the Word Relationships test is also provided. Section I is used to present data on district and school human and financial resources. Because this information is not collected at the classroom level, no resource information is available for the Classroom Summary. This space is left blank on the classroom reports.

B. Pupil Attitude Questionnaire Results

Two reports are provided at the classroom level to districts which elected the Pupil Attitude Questionnaire option. These reports are: (1) the Pupil Attitude Questionnaire Report, and (2) the Pupil Attitude Questionnaire Summary.

Pupil Attitude Questionnaire Report

FIGURE 4 shows a facsimile of the Pupil Attitude Questionnaire Report. This Report is provided for every district, every school, and every classroom that was separately identified. The information provided in the Pupil Attitude Questionnaire Report may suggest particular aspects of students' attitudes that may be contributing to the overall test results.

PUPIL ATTITUDE QUESTIONNAIRE REPORT

A→

DISTRICT NAME: NORTHEAST SCH DIST
CODE: 55-345

SCHOOL NAME: CENTRAL ELEM
CODE: 7120

TEACHER NAME: MS O'NEILL

GRADE: FOUR

DATE TESTED: 10/74

NUMBER OF PUPILS: 20

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM 1974-75 (YEAR 6)

ATTITUDE TOWARD SCHOOL

B→

ITEM NUMBER	1	3	5	7	8	10	12	15	16	19	21	24	27	29	30
TRUE (%)	75*	85*	70*	20	65*	80*	95*	85*	50*	25	80*	90*	15	10	90*
NOT SURE (%)	10	0	5	0	15	5	0	0	45	5	5	5	0	0	0
FALSE (%)	15	15	25	80*	15	15	5	15	5	70*	15	5	85*	90*	10
NO RESPONSE (%)	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0

ATTITUDE TOWARD SELF

C→

ITEM NUMBER	2	4	6	9	11	13	14	17	18	20	22	23	25	26	28
TRUE (%)	10	5	15	20	25	25	5	5	85*	10	85*	10	80*	10	75*
NOT SURE (%)	5	5	5	15	5	0	5	5	5	0	0	0	5	0	15
FALSE (%)	80*	90*	75*	50*	65*	75*	85*	90*	5	90*	15	90*	10	85*	10
NO RESPONSE (%)	5	0	5	15	5	0	5	0	5	0	0	0	5	5	0

FIGURE 4: PUPIL ATTITUDE QUESTIONNAIRE REPORT

Each major section of the form is marked with a letter for purposes of explanation. Section A identifies the district, school, grade and number of pupils. Sections B and C show the testing results separately for each attitude. The data for questions 1, 3, 5, 7, 8, 10, and so forth which measure Attitude Toward School, appear together across the middle of the page in Section B. Under each question is shown the percent of pupils who gave each response: true, not sure, false, or no response. An asterisk identifies whether a true or false response was counted as favorable. Section C contains the data for questions 2, 4, 6, 9, and so forth, which measure Attitude Toward Self and appear together across the bottom of the page. The information provided is shown in the same format as that for Attitude Toward School.

Pupil Attitude Questionnaire Summary

FIGURE 5 shows a facsimile of the Pupil Attitude Questionnaire Summary. Section A identifies the district name and number, school name and number, teacher, grade level and number of students tested. Below Section A, the attitude results are given in two broad columns. Attitude Toward School results are presented in the left columns and Attitude Toward Self are given in the right columns. The results for each attitude provide the following information: (1) raw score, (2) converted score, (3) percent of pupils, and (4) number of pupils. The raw score is found by counting each favorable response as a plus one, each unfavorable response as a minus one, and each "not sure" response as zero. The raw scores are the total of these for the fifteen items that measure each objective. The converted score, and the interpretation given to each score are shown below:

Raw Score	Converted Score	Interpretation
10 to 15	5	Very Favorable
4 to 9	4	Favorable
-3 and 3	3	Neutral
-4 to -9	2	Unfavorable
-10 to -15	1	Very Unfavorable

The third and fourth columns show the percent and number of students who earned each converted score.

After all data have been processed, a statewide summary will be distributed to all districts along with a list of the districts that administered the attitude tests at each grade level. Because the revised questionnaires have been administered on a voluntary basis statewide, it is not possible to provide statewide norms.

PUPIL ATTITUDE QUESTIONNAIRE SUMMARY

A+

DISTRICT NAME NORTHEAST DISTRICT CODE 55-345 MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

SCHOOL NAME ABLE ELEM SCHOOL CODE 7160 1974-75 (YEAR 6)

TEACHER MS. O'NEILL

GRADE FOUR NUMBER OF PUPILS TESTED 20 DATE TESTED 10/74

* * * * ATTITUDE TOWARD SCHOOL * * * *				* * * * * * * * ATTITUDE TOWARD SELF * * *			
RAW SCORE	CONVERTED SCORE	PERCENT PUPILS	NUMBER PUPILS	RAW SCORE	CONVERTED SCORE	PERCENT PUPILS	NUMBER PUPILS
10 TO 15	5	35	7	10 TO 15	5	35	7
4 TO 9	4	25	5	4 TO 9	4	30	6
-3 TO 3	3	25	5	-3 TO 3	3	20	4
-9 TO -4	2	10	2	-9 TO -4	2	10	2
-15 TO -10	1	5	1	-15 TO -10	1	5	1

FIGURE 5: PUPIL ATTITUDE QUESTIONNAIRE SUMMARY

SECTION III

INTERPRETATION OF THE EDUCATIONAL ASSESSMENT RESULTS

A. Mathematics and Reading

The previous section of this report described each of the report forms provided to local educators. The purpose of this section is to aid the local educator in interpreting the three reports in order to determine individual student and classroom educational needs. Educators should consider these suggestions for interpretation in light of the cautions that are given in the fourth section of this report.

It is important to remember in interpreting these results that only a certain number of the minimal performance objectives have been included. The results might suggest certain instructional strategies to educators for helping individual students and groups of students.

For example, by examining the Classroom Listing Report, the educator can determine quickly two things: first, the percentage of students who attained each objective, and second, which students have and have not attained each objective. The first type of information shows the extent of need in the classroom. This may suggest, if the percentage of attainment is low, that a majority of students need help in a particular area and large group instruction may be appropriate. But if the percentage is high (that is, most of the students have attained the objective), the additional help might most appropriately be in the form of individual attention or small group instruction. The listing of which students have and have not attained each objective will help the educator determine which students need additional assistance.

The Classroom Summary Report may help show trends and patterns. Students who answered three out of five test items correctly are closer to attaining the objective than those who missed all of the items. It is possible that a single, fundamental concept contained in one test item is all that prevented students from attaining an objective. This can be determined by referring to the Individual Student Reports and a copy of the appropriate test booklet to determine if many students are missing the same test item.

In addition, if students who did not attain the objective missed most of the test items measuring that objective, it may suggest that these students will need greater amounts of additional assistance than those students who correctly answered three out of five test items.

The Individual Student Reports, because they contain so much information on each student, generally should be consulted after the other two reports have been examined. By using the group reports first, educators should be able to determine areas of student need. Then, they may be able to pinpoint which students need additional help by examining the appropriate Individual Student Reports.

It is also important for the staff of each school and school district to consider the educational needs of students in the entire school or the entire school district by examining not only the individual student and classroom reports, but the school and school district summaries as well. It is possible that similar conditions exist in other classrooms. This would suggest that local educators should examine the curriculum to determine when appropriate instruction should occur and whether additional resources are needed.

B. Word Relationships (Optinal)

If the district elected the Word Relationships option, several types of scores will be reported to the classroom teachers. On the Individual Student Reports, each student's *raw score, standard score,* and *percent below* score will be reported. The *raw score* is the total number of correctly answered test items. The *standard score* is developed from the raw score. In 1973-74, standard scores with a mean of 50 and a standard deviation of 10 were established. A *percent below* score corresponding to any given standard score shows the percentage of pupils tested in the 1973-74 program who received lower scores. Thus, a percent below score of 60 on Word Relationships indicates that 60 percent of the pupils in the state received a lower score in the 1973-74 program, and that 40 percent in the state received the same or higher score.

The Classroom Summary shows the distribution of Word Relationships standard scores in the classroom as well as the number of students tested.

C. Pupil Attitude Questionnaire (Optional)

The MEAP attitude survey was designed to provide information about attitude toward school and attitude toward self for large groups of students. The survey should not be expected to yield data which could be used for psychological diagnoses of individual students. The results returned to the district, then, are useful primarily for providing a general impression of the prevailing student attitudes toward school and toward self. Local educators will have to seek supportive evidence, which may be subjective in nature, to validate the results and to understand better the reported scores—i.e., what causes scores to be low or high, what causes a particular school to score low or high, and so forth.

If the reported scores are low and if one is reasonably convinced "why", then staff and parents can collectively plan changes in the curriculum, school organization, or instructional plans which may foster improved attitudes toward school and toward self. These attitudes, however, are not easy to alter—particularly for older children—and one should not expect dramatic shifts in short periods of time.

SECTION IV

PRECAUTIONS IN INTERPRETING THE EDUCATIONAL ASSESSMENT RESULTS

This section presents some precautions which educators should observe when interpreting the results contained in the three types of reports.

The Performance Objective Are Minimal Objectives

The performance objectives included in the assessment tests are minimal objectives. That is, these objectives cover some of the skills which most fourth and seventh grade students should possess. They do not cover the entire range of what educators would consider important for many or even some students to know in mathematics and reading at the beginning of fourth or seventh grade. Some students will know considerably more in these areas than is measured by these tests. In addition, local school districts may have other important objectives which are unique to the local district.

Objectives Tested Are A Sample of the Complete Set of Objectives

Because tests designed to measure the complete sets of minimal objectives in mathematics and reading would be prohibitively long, samples of the complete sets were chosen to measure. There are other minimal objectives which were not measured; therefore, educators cannot say that students have attained all of the minimal objectives if they attained the objectives assessed this year. Follow-up assessment efforts will be needed at the local level to cover the entire set of mathematics and reading minimal performance objectives and the additional performance objectives adopted by the local district.

Criterion Levels Are Present

The criterion level for attainment of each objective was set by the Department of Education at four out of five test items. Despite this high criterion level, it is still possible for a small percentage of students to attain some objectives by guessing, since multiple-choice questions were used. For some objectives, the criterion level may be too high or too low. It is important that local educators consider this factor when interpreting their assessment results.

Review Objectives and Test Items Carefully

The performance objectives measured in this year's educational assessment program represent a consensus of many people concerning the minimal skills most fourth and seventh graders should possess. The mathematics objectives tested in the 1973-74 program were reviewed by a representative group of the Michigan Council of Teachers of Mathematics. Some changes in content and placement of the objectives were made based on their recommendations. Similar reviews were conducted on the reading objectives based on the results of the 1973-74 program. It is still possible, however, that a few of the performance objectives have been incorrectly placed for fourth or seventh graders.

A few of the test items which measure the performance objectives may be less than optimal measures of objectives. An extensive validation procedure was used to eliminate poor items and inappropriate objectives. However, it is possible that some poor items and inappropriate objectives have not been eliminated. Local educators should be particularly careful when examining their results to review the objectives for appropriateness and the test items for soundness.

Responsibility For Educational Needs Discovered

The purpose of the objective-referenced tests in mathematics and reading is to pinpoint specific educational needs of students. In attempting to establish the reason why educational needs exist, educators should refrain from placing blame on teachers. It is not the purpose of the objective-referenced tests nor the educational assessment program to single out particular teachers for fault or blame, but to encourage *all* of those involved in education (teachers, counselors, administrators, curriculum specialists, board members, parents, students, and others) to examine the results to determine how the entire system can better meet the needs of all students. Because the objectives used this year cover a range of several grades (depending on the pace at which students learn), it is not appropriate to assume that one particular teacher is responsible for teaching those skills. This underscores the need for an examination of the assessment results by representative groups of persons concerned with education.

APPENDIX

MATHEMATICS AND READING OBJECTIVES MEASURED IN THE 1974-75 MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM, GRADES 4 AND 7

READING OBJECTIVES MEASURED IN THE 1974-75 MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM*
Grade 4

	Objective Number	
1.	2.1	Given a reading selection at the third grade level, the learner will match a series of words in the selection with appropriate definitions.
2.	2.2	Given a set of phrases, the student will indicate those phrases which have the same meaning.
3.	3.2	Given a reading selection at the third grade level in which every fifth word has been replaced with a blank, the learner will choose the exact word appropriate to the blank space at 50% accuracy.
4.	4.1	Given a method of arranging data, the learner will identify the method (e.g., color, size, importance, time, etc.)
5.	4.4	Given a series of randomly placed words, the learner will be able to alphabetize the words through the first three letters.
6.	5.1	Given a series of reading selections, the learner will indicate those which are factual.
7.	5.2	Given a series of reading selections, the learner will indicate those which are fictional.
8.	6.1-6.3	Given a reading selection, the learner will be able to identify the author's purpose (e.g., persuasion, entertainment, propaganda, etc.)
9.	7.1	Given a reading selection at the third grade level, the learner will select from a list of possible titles the one most appropriate as the title for that selection.
10.	7.2	Given a reading selection at the third grade level, the learner will select from a series of still pictures the one picture most appropriate in depicting the main idea of the selection.
11.	7.3	Given a reading selection at the third grade level, the learner will select from a number of short summaries the one which best summarizes the selection.
12.	8.4	Given a reading selection at the third grade level, the learner will match a series of direct quotations from the story with the character who is speaking.
13.	10.3	Given a reading selection at the third grade level, the learner will choose from a series of sentences that sentence which best describes how a given character feels in a story.
14.	10.6	Given a selection containing figurative language, the learner will identify from a series of descriptive phrases the phrase that most accurately describes the mood expressed in the selection.
15.	11.1	Given a reading selection at the third grade level, the learner will correctly match a series of causes with a corresponding series of effects.

* This list contains only the objectives which are included in the every-pupil portion of the 1974-75 MEAP tests. A complete set of the objectives is available in **Minimal Performance Objectives for Communication Skills Education in Michigan,** Michigan Department of Education.

16.	11.2	Given a reading selection at the third grade level with the conclusion of the story deleted, the learner will select from a series of possible conclusions the one most appropriate to the selection.
17.	13.1	Given a locational question, the learner will choose from a series of reference sources where that item will be found.
18.	13.2	Given a locational question about newspapers, the learner will select the section where he would find the answer.
19.	14.1-14.3	Given a reading selection at the third grade level, the learner will answer correctly a series of multiple choice questions relating to meanings, generalizations, or conclusions not expressed in the selection itself.

READING OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM
Grade 7

Objective Number		
1.	18.1	Given a reading selection at the sixth grade level, the learner will match a series of words in the selection with appropriate definitions.
2.	18.2	Given a set of phrases, the learner will indicate those phrases which have the same meaning.
3.	20.1	Given a method of arranging data, the learner will identify the method (e.g., sequence, importance, etc.).
4.	21.1	Given a series of randomly placed words, the learner will be able to alphabetize the words through the first three letters.
5.	22.1	Given a series of reading selections, the learner will indicate those which are factual.
6.	22.2	Given a series of reading selections, the learner will indicate those which are fictional.
7.	23.1-23.3	Given a reading selection, the learner will be able to identify the author's purpose (e.g., persuasion, entertainment, propaganda, etc.).
8.	24.1	Given a reading selection at the sixth grade level, the learner will select from a list of possible titles the one most appropriate as the title for that selection.
9.	24.2	Given a reading selection at the sixth grade level, the learner will select from a series of still pictures the one picture most appropriate in depicting the main idea of the selection.
10.	24.3	Given a reading selection at the sixth grade level, the learner will select from a number of short summaries the one which best summarizes the selection.
11.	24.4	Given a series of three or more reading selections at the sixth grade level, the learner will indicate the two most alike in the ideas expressed.
12.	25.3	Given a reading selection at the sixth grade level, the learner will match a series of direct quotations from the story with the character who is speaking.
13.	26.3	Given a reading selection at the sixth grade level, the learner will correctly answer a series of multiple choice questions relating to the sequence of events or ideas presented in the selection.
14.	27.2	Given a reading selection at the sixth grade level, the learner will choose from a series of sentences that sentence which best describes how a given character feels in a story.
15.	28.1	Given a reading selection at the sixth grade level, the learner will choose from a series of sentences the one which best describes a motive for some action or activity.

16. 29.1 Given a reading selection at the sixth grade level, the learner will correctly match a series of causes with a corresponding series of effects.

17. 29.5 Given a reading selection at the sixth grade level, the learner will answer correctly a series of multiple choice questions relating to meanings, generalizations, or conclusions not expressed in the selection itself.

18. 31.1 Given a locational question, the learner will choose from a series of reference sources where that item will be found.

19. 31.2 Given a locational question about newspapers, the learner will select the section where he would find the answer.

20. 32.1 Given a reading selection at the sixth grade level with the conclusion of the story deleted, the learner will select from a series of possible conclusions the one most appropriate to the selection.

MATHEMATICS OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM*
Grade 4

Objective Number		
1.	AR-I-A-6	Given a set of objects, the learner will recognize objects that are the same **size.**
2.	AR-I-A-8	Given an object shaped like a circle, triangle, square, or rectangle, the learner will choose the shape the object represents.
3.	AR-I-A-16	Given a set of three containers, one full, one empty, and one half-filled, the learner will choose the containers that are arranged from full to empty.
4.	AR-I-A-24	Given a collection of five objects of varying lengths, the learner will identify the **longest** or the **shortest**, as requested.
5.	AR-I-A-39	Given five small toys in a line, the learner will identify the **first** toy and the **last** one.
6.	AR-I-B-7	Given a set with less than ten objects, the learner will identify an equivalent set.
7.	AR-I-B-32	Given a set of two to eight objects, the learner will identify a set having fewer members than the original set.
8.	AR-I-B-40	Given a line marked with congruent segments and a set of number cards (0-10), the learner will choose the appropriate number card for the point on the line.
9.	AR-I-B-43	Given any three numbers, 0-10, the learner will identify which number is the greatest and which is the least, on request.
10.	AR-I-B-44	Given two consecutive even or odd numbers, 0-9, the learner will name the number that comes **between** the two given numbers.
11.	AR-I-B-45	Given a number from 1 to 8, the learner will identify the number that comes **before** or **after** the given number.
12.	AR-I-B-64	Given a set of tens and ones representing a number less than 100, the learner will identify the numeral.
13.	AR-I-B-65	Given a set of sequentially ordered whole numbers within a decade less than 100, such as 31, 32, . . . 40, the learner will identify the number that comes immediately before or after a given number, as requested.
14.	AR-I-B-67	Given 2 two-digit numbers, the learner will tell which number is greater and which number is less.
15.	AR-I-B-70	Given a set of dimes and pennies valued between 11 and 99 cents (one dime, one penny to nine dimes, nine pennies), the learner will state the value.

16.	AR-I-B-81	Given a random list of two- and three-digit numbers, the learner will identify the list that is in ascending order.
17.	AR-I-B-82	Given 2 three-digit numbers which have the same digits but in different positions, the learner will compare them to determine which is greater and which is less.
18.	AR-I-B-84	Given a counting sequence of two or four numbers, the learner will write the next number in the sequence.
19.	AR-I-B-85	Given the counting numbers 1-10, the learner will indicate those that are multiples of 2.
20.	AR-I-B-86	Given a set of objects, the learner will select another set that will have twice as many objects.
21.	AR-II-A-10	Given addition exercises involving a two-digit number plus a one-digit number requiring no regrouping (carrying), the learner will find the sums with or without the use of aids.
22.	AR-II-B-9	Given a set of objects or pictures showing a subtraction relationship with combinations to 18, the learner will identify an appropriate number sentence.
23.	AR-II-B-11	Given a subtraction word problem read by the teacher involving combinations to 18, the learner will: 1) identify the operation, 2) identify an appropriate number sentence, and 3) identify the answer.
24.	AR-II-B-13	Given two sets of objects, one with more objects than the other, the learner will identify how many more members it has.
25.	AR-II-B-15	Given a two-digit number, the learner will subtract one-digit numbers with no regrouping (borrowing) with or without the use of aids.
26.	AR-II-B-16	Given a two-digit number, the learner will subtract a two-digit number with no regrouping (borrowing).
27.	M-II-A-6	Given the reading "_____o'clock" and a clock face, the learner will identify the clock showing the appropriate time.
28.	M-II-B-3	Given three to five different amounts of money, all less than or equal to $5.00, the learner will identify the greatest or the least.
29.	M-II-C-1	Given a Fahrenheit or Centigrade thermometer, the learner will identify the temperature (above zero) to the nearest degree.
30.	G-I-A-2	Given pictures of various shapes, the learner will identify circles, triangles, squares, and rectangles as requested.

* This list contains only the objectives which are included in the every-pupil portion of the 1974-75 MEAP tests. A complete set of the objectives is available in the **Minimal Performance Objectives for Mathematics in Michigan,** Michigan Department of Education, 1973. The wording of the objectives in this APPENDIX may be different from the original wording as contained in the publication cited above. These minor wording changes were necessitated by the group-administered nature of the items developed to measure the objectives.

MATHEMATICS OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM
Grade 7

Objective Number		
1.	AR-I-B-87	Given any four-digit number, the learner will identify the number that is 100 or 1000 more or less than it is, without using formal addition or subtraction.
2.	AR-I-B-89	Given a number orally, the learner will identify the arabic numeral.
3.	AR-II-A-22	Given addition exercises involving a three-digit number plus a one-, two-, or three-digit addend, with or without regrouping (carrying), the learner will identify the sums, using any techniques.
4.	AR-II-A-26	Given addition problems involving two or three addends with three, four, five, or six digits, with or without regrouping, the learner will find the sums, using any techniques.
5.	AR-II-B-20	Given a three-digit number, the learner will subtract a two or three-digit number, with or without the use of aids.
6.	AR-II-C-6	Given a repeated addition sentence, the learner will represent it as a multiplication sentence with its product.
7.	AR-II-C-11	Given two numbers, the learner will demonstrate that the order in which they are multiplied does not change the product.
8.	AR-II-C-13	Given a one-digit number and (10,20...), (100,200...), the learner will identify the product.
9.	AR-II-C-15	Given a two-digit number to be multiplied by a one-digit number, the learner will identify the product, with or without aids.
10.	AR-II-D-5	Given a sentence with one single digit, a missing factor, and a product (whole numbers), the learner will identify the missing factor.
11.	AR-II-D-7	Given a division fact, the learner will identify it rewritten as a multiplication fact.
12.	AR-II-D-9	Given a one-digit divisor (factor) and a dividend (product) of less than 100, the learner will identify the quotient (missing factor) if there is no remainder.
13.	AR-II-D-15	Given an exercise with a dividend of four digits or less, and a one-digit divisor, the learner will identify the quotient.
14.	AR-III-A-1	Given several objects, some divided into congruent parts, some divided into noncongruent parts, the learner will identify congruent parts.
15.	AR-III-A-18	Given a diagram divided into congruent parts, with some parts shaded, the learner will identify the shaded area by identifying an appropriate fraction.

16.	AR-III-A-19	Given any five fractions with **like** denominators, in random order, the learner will identify them in order (halves, thirds, fourths, fifths, sixths, eighths, tenths); with or without the use of aids.
17.	AR-III-B-4	Given two common fractions with like denominators and a sum greater than 1, the learner will identify the sum, with or without the use of fractional cut-out parts.
18.	AR-III-B-7	Given two mixed numbers with like denominators, the learner will identify the sum.
19.	AR-III-C-4	Given a mixed number and a fraction with like denominators, of 2, 3, 4, 6, or 8, where no regrouping is necessary, the learner will find the difference.
20.	AR-III-C-6	Given a whole number and a common fraction with a denominator of 2, 3, 4, 6, or 8, the learner will find the difference with or without the use of fractional parts.
21.	AR-III-D-4	Given two unit fractions with denominators less than seven, the learner will identify the product with or without the use of a model.
22.	AR-IV-A-3	Given a model of a fraction illustrating hundredths, the learner will identify the decimal fraction as illustrated.
23.	AR-IV-A-7	Given a decimal fraction of no more than three places, the learner will name the place value of each digit, without aids.
24.	AR-IV-B-3	Given a verbal problem involving addition and subtraction of decimal numbers involving only tenths, the learner will find the answer.
25.	AR-IV-B-6	Given a verbal problem involving addition and subtraction of decimal numbers involving tenths and hundredths, the learner will find the answer.
26.	AR-IV-B-9	Given an addition and subtraction decimal problem in horizontal or vertical form with no more than five (5) digits and no more than three (3) decimal places, the learner will find the sum or difference.
27.	AR-VI-15	Given a picture of sets paired in (A) a one-to-one, (B) a many-to-one, or (C) a one-to-many ratio and part of another pair, the learner will identify the pair that keeps the ratio equivalent.
28.	M-I-B-8	Given a polygon, the learner will estimate its area in square units.
29.	M-I-C-7	Given a drawing of a rectangular solid divided into units (dimensions less than or equal to 5 units), the learner will name the number of units in it.
30.	M-II-A-10	Given a clock face with hands on it, the learner will choose the correct time notation.
31.	M-II-A-11	The learner will use A.M. and P.M. notation in writing time.
32.	M-II-B-7	Given two money values, the learner will add or subtract using dollars and cents notation.

33.	M-II-B-9	Given verbal problems consisting of one or two operations involving money values less than or equal to $20, the learner will solve the problems.
34.	M-II-C-3	Given a Fahrenheit or Centigrade thermometer the learner will identify temperatures to the nearest degree, using the degree [°] symbol.
35.	G-I-A-4	Given a set of quadrilaterals, the learner will identify and name a parallelogram, a square, and a rectangle.
36.	G-I-B-5	Given the description of a plane, and a part of a plane, the learner will identify surfaces which represent a plane or part of a plane.
37.	AL-2	Given a statement of equality involving addition, subtraction, or multiplication facts and containing a placeholder or letter, the learner will identify the missing number.
38.	AL-4	Given a pair of whole numbers or number phrases less than 1,000, the learner will identify the appropriate symbol of equality or inequality, < or = or >.
39.	AL-5	Given an equation involving one or zero, the learner will complete the sentence.
40.	AL-7	Given a numerical statement involving distributive property and a placeholder, the learner will insert the missing value.